

ABSTRACT

5       A power MOSFET comprises: a semiconductor substrate 21 of a first conduction type; a drain layer 22 of the first conduction type and formed on a surface layer of the substrate; a gate insulating film 25 formed in a partial region on the drain layer 22; a gate electrode 26 formed on the gate insulating film 25; 10 an insulating film 27 formed on the gate electrode; a side wall insulator 28 formed on side walls of the gate insulating film 25, the gate electrode 26, and the insulating film 27; a recess formed on the drain layer 22 and in a region other than a region where the gate electrode 25 and the side wall insulator 28 are formed; 15 a channel layer 23 of a second conduction type opposite to the first conduction type and formed in a range from the region where the recess is formed to a vicinity of the region where the gate electrode 26 is formed; a source region layer 24 of the one conduction type and formed on the channel layer 23 outside the 20 recess; and a wiring layer 29 formed to cover the channel layer 23 which is exposed through the recess, the side wall insulator 28, and the insulating film.